

ABSTRACT

In a first aspect, a first apparatus is provided. The first apparatus includes (1) a tank adapted to contain fluid; (2) at least one support component mounted in the
5 tank and adapted to support a substrate in a supported position at least partially submerged in the fluid; (3) a transducer adapted to output sonic energy into the fluid; and (4) a reflector positioned at a side of the substrate and adapted to reflect the sonic energy toward an edge of
10 the substrate so as to provide a 100% duty cycle. The reflector is positioned such that the reflector does not obstruct a path employed to load the substrate into the supported position and to unload the substrate from the supported position. Numerous other aspects are provided.